

THE INVENTION CLAIMED IS:

1. A therapy device comprising:

a hyperbaric chamber adapted to expose at least a target tissue area of a patient to a hyperbaric environment;

5 and

a light therapy device adapted to expose the target tissue area of the patient to one or more doses of light energy while the target tissue area is within the hyperbaric chamber.

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2. The therapy device of claim 1 wherein the light therapy device comprises an LED array adapted to emit radiation having wavelengths within the range from about 350 to about 880 nanometers.

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3. The therapy device of claim 1 further comprising one or more controllers adapted to control the hyperbaric chamber and the light therapy device so as to expose the target tissue area to one or more doses of light therapy and one or more doses of hyperbaric therapy.

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4. The therapy device of claim 3 wherein at least a portion of the light therapy and hyperbaric therapy are performed simultaneously.

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5. The therapy device of claim 3 wherein the light therapy and hyperbaric therapy are performed sequentially.

6. A light and hyperbaric therapy device comprising:

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a hyperbaric chamber; and

a light therapy device comprising:

an LED array;

a power source coupled to the LED array;

a user device coupled to the power source; and
at least one of a position adjustment mechanism, a
camera and a targeting mechanism;

wherein the light therapy device is adapted to:

5 emit one or more different wavelengths at a
target area positioned within the hyperbaric chamber; and

 at least one of view the target area and
allow light beams emitted from the LED array to be
repeatedly positioned on the target area.

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7. The light and hyperbaric therapy device of claim 6
wherein the light therapy device is further adapted to allow
a user to specify at least one of amplitude, frequency, duty
cycle and duration of one or more power signals applied to
15 the LED array by the power source.

8. The light and hyperbaric therapy device of claim 6
wherein the light therapy device is further adapted to
control one or more of the position adjustment mechanism,
20 camera and the targeting mechanism.

9. The light and hyperbaric therapy device of claim 6
further comprising one or more focusing devices for focusing
light emitted from the LED array onto the target area.

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10. The light and hyperbaric therapy device of claim 6
wherein the LED array is disposed within the hyperbaric
chamber and further comprising:

a pressure proof housing enclosing the LED array;

30 a gas supply line coupled to the pressure proof housing
and adapted to supply gas to the LED array; and

a vent line coupled to the pressure proof housing and
adapted to remove gas from the pressure proof housing.

11. The light and hyperbaric therapy device of claim 6 wherein the power source is external to the hyperbaric chamber.

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12. A method for light and hyperbaric therapy comprising:
positioning a light therapy device relative to a target area located within a hyperbaric chamber;

10 selecting at least one wavelength and dosage of light therapy;

filling the hyperbaric chamber with gas to establish a desired pressure within the hyperbaric chamber; and

irradiating the target area with the at least one selected wavelength and dosage of light therapy.

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13. The method of claim 12 wherein positioning the light therapy device comprises positioning the light therapy device within the hyperbaric chamber.

20 14. The method of claim 12 wherein selecting at least one wavelength and dosage of light therapy comprises selecting at least one wavelength of light having a wavelength within a range from about 350 to about 880 nanometers.

25 15. The method of claim 12 wherein filling the hyperbaric chamber with gas comprises filling the hyperbaric chamber with a gas to establish a hyperbaric pressure of about 3 atmospheres absolute oxygen partial pressure or below.

30 16. The method of claim 12 further comprising imaging the target area.

17. The method of claim 16 further comprising documenting

the performed light and hyperbaric therapy.

18. A computer program product comprising:

- a medium readable by a computer, the computer
- 5 readable medium having computer program code adapted to:
 - allow selection of at least one wavelength
 - and dosage of light therapy;
 - at least initiate filling of the hyperbaric
 - chamber with gas to establish a desired pressure within the
 - 10 hyperbaric chamber; and
 - at least initiate irradiation of the target
 - area positioned within the hyperbaric chamber with the at
 - least one selected wavelength and dosage of light therapy.

15 19. The computer program product of claim 18 further comprising computer program code adapted to image the target area.

20 20. The computer program product of claim 18 further comprising computer program code adapted to document the performed light and hyperbaric therapy.